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OBJECTIVES: The ESTIMATOR study aims to provide information on clinical and economic outcomes associated with the management of fungal infections across intensive care units (ICUs) in Greece. **METHODS:** ESTIMATOR was a non-interventional prospective cohort study conducted in 14 ICUs in Greece. Adult patients initiating therapy with a systemic antifungal agent between July 2011 and February 2012 were included. Information on predisposing factors, management and therapeutic strategies, clinical outcomes and length of ICU stay (LOICUS) were recorded until end of therapy or death. **RESULTS:** A total of 155 eligible patients were recruited. 68% of patients presented at least 5 predisposing factors for fungal infection at antifungal treatment (AT) onset, while the mean APACHE score was 22.4 (s.d. 5.9). Median time until AT initiation was 6 days after ICU admission, while the median LOICUS was 31 days. 49.7% of patients received treatment with an empiric strategy while prophylaxis, pre-emptive and definitive strategies where used at 6.4%, 20.0% and 23.9% of the study population respectively. Echinocandins (57.3%), Fluconazole (20.0%) and Itraconazole (12.9%) were the most utilized therapies in the study. The overall treatment success and mortality rates were 43.9% and 49.7% respectively. Variations in death and response rates were observed when adjusted to the treatment strategy and the class of drug used. The mean total cost per patient treated was estimated at 22,012 Euros. Average LOICUS accounts for the 80.8% of total direct costs, while antifungal treatment, tests and investigations account for the remaining 19.2%. Limited efficacy of first line antifungal agent is associated with an increase in economic costs of 74%. **CONCLUSIONS:** Treating patients for fungal infections imposes a high economic burden to hospitals. Significant cost drivers are prolonged LOICUS and treatment failure. Treatment options that result in LOICUS reduction and increased first line efficacy have the potential to reduce hospital cost.

PIN39

A COST CONSEQUENCE ANALYSIS OF A QUADRIVALENT MENINGOCOCCAL VACCINE (MENACWY-TT) IN CANADA

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OBJECTIVES: Neisseria meningitidis is a leading cause of life-threatening invasive meningococcal diseases (IMD). In most populated Canadian provinces, vaccination with the monovalent vaccine (MenC; against serogroup C) is recommended at one year of age. This study aimed to assess various quadrivalent vaccination strategies (MenACWY-TT covering serogroups A, C, W135 and Y) schedule (12 months with and without booster at 12 or 15 years) in Canada compared to the current strategy. **METHODS:** IMD incidence under the different scenarios was estimated using a dynamic model. The cost associated with IMD treatment, IMD sequelae and IMD mortality were estimated. Input data (mortality, rates of sequelae and costs) were retrieved from Canadian statistics and published studies. The time horizon was 50 years. A discount rate of 5% was applied on costs. Costs were estimated from the third-party payer (TPP) and the societal perspective (accounting for the productivity lost from IMD and its sequelae). Deterministic and probabilistic sensitivity analyses were conducted. **RESULTS:** Compared with MenC at 12 months, MenACWY-TT at 12 months was estimated to prevent an additional 862 IMD cases and 76 deaths, 3,362 IMD cases and 296 deaths with a booster at 12 years and 4,007 IMD cases and 353 deaths with a booster at 15 years. The treatment costs averted while switching to the MenACWY-TT vaccine were estimated at C$8.4 (no booster), C$31.9 (+ booster at 12 years) and C$39.6 millions (+ booster at 15 years) from the TPP perspective and respectively C$24.0, C$89.8 and C$112.2 millions from the societal perspective. Results were most sensitive to the incidence of IMD and serogroup-specific incidence of post-IMD sequelae. **CONCLUSIONS:** The model predicted that vaccinating with MenACWY-TT at 12 months with an adolescent booster would result in additional IMD and cost reduction compared to the current MenC at 12 months.

PIN40

COST-EFFECTIVENESS OF BOCEPREVIR-BASED TREATMENT OF CHRONIC GENOTYPE 1 HEPATITIS C VIRUS (HCV) INFECTION FROM THE PERSPECTIVE OF THE GERMAN STATUTORY HEALTH INSURANCE (SHI)

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OBJECTIVES: SPRINT-2 and RESPOND-2 randomized clinical trials have demonstrated substantially higher sustained virologic response rates (SVR) for boceprevir-based treatment compared to peginterferon and ribavirin (PR) alone in patients with chronic genotype 1 HCV infection. Our objective was to evaluate the cost-effectiveness of using boceprevir in Germany from the perspective of German Statutory Health Insurance (SHI). **METHODS:** A Markov model was created to project the effect of antiviral therapy options on Hepatitis C disease progression using German life tables and baseline patient demographics from the trials - mean age, gender, and fibrosis stage distribution. The first part of the model simulated two strategies - treatment with boceprevir/peginterferon/ribavirin (as defined by the European Medicines Agency) and treatment with peginterferon/ribavirin. The second part of the model projected lifetime incidences of decompensated cirrhosis, hepatocellular carcinoma, liver-transplant, and liver-related death. All hepatitis C-related state transition probabilities were obtained from previously published studies. Pharmacy retail prices minus rebates (Social code book V, § 130 (1) and § 130a (1a)) were used. The model was validated with previously published studies and probabilistic sensitivity analysis was performed. **RESULTS:** Liver-related morbidity and mortality were projected to be reduced by 43% to 53%. for a quality adjusted life year (QALY) gain of 0.8 in treatment naïve patients, and 1.4 in treatment experienced patients in comparison with SOC. The cost per QALY gained on boceprevir-based regimes compared to PR alone was 17,511€ for treatment naïve patients and 16,645€ for treatment experienced patients in comparison with SOC. **CONCLUSIONS:** In German SHI, the addition of boceprevir to PR in patients with chronic genotype 1 HCV infection reduces liver-related morbidity and mortality in a quantifiable and cost-effective fashion, irrespective of whether patients have been previously treated.

PIN41

COST-EFFECTIVENESS OF PERTUSSIS ADOLESCENT BOOSTER IN ENGLAND AND WALES: A DYNAMIC MODEL BASED ANALYSIS

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OBJECTIVES: Epidemiology of pertussis shows that despite effective vaccination in childhood, naturally acquired and vaccine induced immunity is waning over time leading to higher incidence in adolescents and adults. Literature estimates the annual incidence of pertussis in the UK reaches 330/100,000 compared with an incidence of 4/100,000 based on statutory notifications, highlighting the degree of under-reporting. This analysis examines the cost-effectiveness of the addition of an adolescent routine booster vaccination against pertussis to the schedule in England and Wales from a payer perspective. **METHODS:** An age stratified, compartmental dynamic model was developed and calibrated on HPA data corrected for symptomatic and asymptomatic cases and empirical contact rates. Two scenarios were compared: current pertussis vaccination schedule (2, 3, and 4 months of age) and a similar schedule with additional booster vaccination at 15 years with coverage of 59%. Total costs and quality adjusted life years (QALYs) were estimated. **RESULTS:** At equilibrium pertussis booster vaccination at 15 years is projected to reduce the combined reported and unreported incidence of pertussis in the following age categories: 10-19 years (55.0%), 20-59 years (31.3%) and 60-75 years (27.9%). There are 7155 QALYs gained annually in the UK population. Unreported symptomatic cases were assumed to incur no cost and 50% of the QALY benefit of reported cases but provided 98% of the total quality of life gained through total symptomatic cases. Annual implementation costs (£9.4M) would be partially offset by savings associated with reported cases (£1.5M). The incremental cost per QALY would be £1,103 from a payer perspective. **CONCLUSIONS:** Model projection indicates that adolescent routine booster vaccination against pertussis would reduce pertussis burden, and is likely to be cost-effective from a payer perspective.

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COST-EFFECTIVENESS-ANALYSIS OF THE COMBINATION- THERAPY TELAPREVIR, PEG-IFNA2A AND RIBAVIRIN IN PATIENTS WITH CHRONIC HEPATITIS-C IN AUSTRIA

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OBJECTIVES: Due to the fact that an infection with the Hepatitis-C-Virus usually runs chronic, this disease represents a major public-health challenge. Hence, the aim of this study is to evaluate the treatment of the Hepatitis-C-Infection with the standard-therapy Peg-IFNα2a in combination with Ribavirin vs. the combination-therapy Peg-IFNα2a, Ribavirin and Telaprevir. **METHODS:** For the decision tree analysis model, an extended cost-per-cure-analysis was performed. The used data derived from two large-scale double-blind, randomized, placebo-controlled Phase-III-Studies by Jacobson et al. (2011) and Zeuzem et al. (2011). The modeling was performed for the time horizons of 24 weeks, 48 weeks, respectively, which correspond to the duration of therapy. Examined patients were adults who were either treatment-experienced or treatment-naïve patients. **RESULTS:** The costs per responder in the group of previous relapser with the Telaprevir-combination-therapy amount to €47,097.89. In the control-group, the standard-care of treatment caused costs per responder of €80,563.05. For the combination-therapy with Telaprevir this results in a cost-advantage of €33,465.16 (42%) per responder. Costs per responder in the previous partial responders amount to €78,541.24 for the Telaprevir-containing regimen. In the control-group, the standard-therapy caused €128,900.89 (cost advantage of €50,359.65 (39%) for the combination-therapy). The costs-per-responder in the group of previous non-responders amount to €159,790.80 for the triple-therapy, compared to the standard-therapy with €386,702.66, resulting in a cost-advantage per responder of €226,911.86 (59%) for the combination-therapy. Total costs of the Telaprevir-containing therapy with naïve-patients amount to €54,410.53 per responder, compared to the control-group with €43,943.48, causing a cost disadvantage of €10,467.05 per responders (24%) for the combination-therapy with Telaprevir. Across all patient groups, a cost advantage per responder of €50,298.68 (42%) incurred (standard therapy Peg-IFNα2a and Ribavirin: €118,559.52, combination-therapy with Telaprevir: €68,260.84). **CONCLUSIONS:** The results of the analysis show that the combination-therapy with Telaprevir is the dominant strategy in the treatment of chronic Hepatitis-C Genotype-1 in Austria.

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THE USE OF FUTILITY RULES IN ECONOMIC EVALUATIONS WITH DIRECT ACTING AGENTS (DAA) IN THE TREATMENT OF GENOTYPE 1 HEPATITIS C VIRUS (HCV) FROM A SPANISH HEALTH CARE PERSPECTIVE

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